

PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Improvements in or relating to Dental Drills

I, MARTIN HERRMANN, a German National, of 31, Beuthenerstrasse, Mainz/Rhein, Germany, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to dental drills.

Drills for dental purposes are known in which in a central bore of the rigid drill is provided a guide pin. It has further been suggested to provide the rigid drill and its holder with a central bore throughout its length, in which a straight and longitudinally displaceable pin is disposed which indicates the depth of bore on a scale.

These implements may be used for widening a tooth passage or channel, as for example for inserting the shaft of pegged artificial teeth or the like, but for the treatment of the root of a diseased tooth they are useless. An efficient widening of the root passages is only in such cases possible with the known hand instruments if the passage is not curved. The root passages of most teeth, however, in particular those of the premolar and molars, are not straight, so that the necessary widening and the sufficient filling of the channels is prevented.

The use of the known root passage drill is very risky if the root passage is drilled for the purpose of obtaining the necessary widening. At the slightest curving of the passage or the presence of a small lime deposit on the passage wall, the point of the drill is unavoidably deflected and causes an injury, in most cases penetration of the root passage wall.

For the purpose of removing these disadvantages, according to the present invention a guiding or scanning pin in the form of a smooth flexible needle or probe is disposed axially displaceably in a similarly flexible drill. The longitudinally displaceable needle is preferably secured against rotation and may, on the portion

projecting from its holder, be provided with a graduation and have a holding knob for insertion in the root passage.

The flexible part of the drill itself may consist of a wire spiral of a sharp-edged cross-section, which on its free end has a drill head of suitable construction. The central passage of the drill furthermore serves for supplying water and medicaments used for root treatment.

By means of this construction it is possible to widen root passages, which are in most cases curved, to a sufficient depth, and to fill the passages right up to the end of the root passage, without fear of penetration or harmful injury to the wall of the root passage.

The invention will be described further by way of example with reference to the accompanying drawing in which the figure shows a drill constructed according to the invention.

A smooth flexible needle 2, 3 is longitudinally and displaceably mounted within the central bore of a drill, the lower part of which is flexible. The suitably rigid drill shaft 1 adjoins the hand-piece of the drilling machine. The flexible part of the drill consists of a wire spiral 5, the cross-section of which is preferably not round but has at least one sharp edge. On the free end of the drill or the wire spiral 5 is a drill head 6 of suitable shape.

The holder 7 for the drill 1 and its guiding needle 2 is bored through in the drilling direction and the head of the longitudinally displaceable needle 2 which projects above the holder 7 of the drilling machine is provided with a handle portion 4 for introducing the needle 2 into the root passage. The needle 2 has on the part which projects upwardly graduations by means of which the drilling depth can be read, so that a perforation of the end of the root passage is prevented. In order to prevent the needle 2 from rotating with the drill, the upper part 8 of the guiding needle within its holder 7, which is attached to the

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handle portion, has not a round cross-section but is constructed, for instance, square.

The central bore of the drill can serve for supplying the liquids necessary for the treatment of the root.

What I claim is :—

1. A drill for dental purposes, in which a guiding or scanning pin in the form of a flexible needle is disposed, so as to be axially displaceable, in a similarly flexible drill.

2. A drill for dental purposes as claimed in claim 1, in which the axial needle is mounted in a holder so as to be non-rotatable.

3. A drill for dental purposes as claimed

in claim 1 or 2, in which the flexible part of the drill consists of wire spiral of sharp edged cross section which at its free end has a drill head of suitable construction.

4. A drill for dental purposes as claimed in claim 2 or 3 in which the axially displaceable needle is provided above its holder with graduations and on its end carries a handle portion.

5. A drill for dental purposes constructed and arranged substantially as herein described with reference to and as illustrated in the accompanying drawing.

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1 SHEET

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*This drawing is a reproduction of
the Original on a reduced scale.*

